

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

EXPRESS MAIL NO. EV 327879405 US

Applicant : Choong Paul Kim, et al.
Application No. : To be assigned
Filed : Filed concurrently herewith
Title : IN-SITU DUCTILE METAL/BULK METALLIC GLASS MATRIX
COMPOSITES FORMED BY CHEMICAL PARTITIONING
Grp./Div. : To be assigned
Examiner : To be assigned
Docket No. : 51667/RDS/C543

**INFORMATION DISCLOSURE STATEMENT
FOR A CONTINUING NON-CPA APPLICATION**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Post Office Box 7068
Pasadena, CA 91109-7068
December 12, 2003

Commissioner:

In compliance with the duty of disclosure under 37 CFR §§ 1.56, 1.97 and 1.98, enclosed is FORM PTO/SB/08A/B. The references listed thereon are not enclosed because they were of record in a parent application, Application No. 09/890,480, filed July 31, 2001.

It is respectfully requested that these references be considered in the examination of this application, and identified in the list of references cited on the patent issuing on this application.

Respectfully submitted,
CHRISTIE, PARKER & HALE, LLP

By Richard D. Seibel
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Reg. No. 22,134
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RDS/mas
Enclosure(s)
MAS PAS541019.1-* 12/11/03 7:58 PM

FORM PTO/SB/08A/B (10-01) Substitute for PTO-1449A/B	Attorney Docket Number	51667/RDS/C543
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U.S. PATENT DOCUMENTS

EXAMINER INITIALS	Cite No. ¹	DOCUMENT NUMBER Number - Kind Code ² (If Known)	Publication Date MM-DD-YYYY	Name of Patentee
		5,288,344	02-22-1994	Peker et al.
		5,368,659	11-29-1994	Peker et al.
		5,567,251	10-22-1996	Peker et al.
		5,589,012	12-31-1996	Hobby et al.
		5,735,975	04-07-1998	Lin et al.
		5,866,254	02-02-1999	Peker et al.

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	Cite No. ¹	FOREIGN PATENT DOCUMENT Country Code ³ - Number ⁴ - Kind Code ⁵ (If Known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	T ⁶ (<input checked="" type="checkbox"/>)
		WO 00/68469	11-16-2000	California Institute of Technology	

OTHER DOCUMENTS

EXAMINER INITIALS	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article, title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
		AGGARWALA, B.D. et al.; <i>Tempering Stresses in an Infinite Glass Plate</i> ; Physics and Chemistry of Glasses; Vol. 2, No. 5; October 1961; pp. 137-140
		AYDINER, C.C., et al.; <i>Thermal Tempering Analysis of Bulk Metallic Glass Plates Using an Instant Freezing Model</i> ; pp 1-21
		BAKKE, E. et al.; <i>The viscosity of the Zr_{46.75}Ti_{8.25}Cu_{7.5}Ni₁₀Be_{27.5} bulk metallic glass forming alloy in the supercooled liquid</i> ; Appl. Phys. Lett; Vol. 67, No. 22; November 27, 1995; pp. 3260-3262
		BARTENEV, D.M.; <i>The Phenomenon of the Quenching of Glass</i> ; (Translation) Vol. 18, 1948; pp. 1-9
		BARTENEV, D.M.; <i>The Theory of the Mechanical Strengthening of Glass by Quenching</i> ; (Translation) Vol. 60, No. 2, 1948; pp. 257-260
		BARTHOLOMEW, Roger F. et al.; <i>Chemical Strengthening of Glass</i> ; Chapter 6; 1980; Academic Press, Inc.; pp. 217-270

EXAMINER SIGNATURE		DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.pto.gov or MPEP 901.4. ³Enter Office that issued the document, by the two-letter code (WIPO standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶Applicant is to place a check mark here if English Language Translation is attached.

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		BROWN, James Ward et al.; <i>Fourier Series and Boundary Value Problems</i> ; Fifth Edition; McGraw-Hill, Inc: New York; pp. 193-197
		BRUCK, H.A. et al.; <i>Quasi-Static Constitutive Behavior of Zr_{41.25}Ti_{13.75}Ni₁₀Cu_{12.5}Be_{22.5} Bulk Amorphous Alloys</i> ; Scripta Metallurgica et Materialia; Vol. 30; 1994; pp. 429-434
		CARRE, H et al.; <i>Numerical Simulation of Soda-Lime Silicate Glass Tempering</i> ; Journal De Physique IV; Vol. 6; January 1996; pp. 175-185
		CHOI-YIM, H. et al.; <i>Synthesis and Characterization of Particulate Reinforced Zr₅₇Nb₅Al₁₀Cu_{15.4}Ni_{12.6} Bulk Metallic Glass Composites</i> ; Acta mater; Vol. 47, No. 8; 1999; pp. 2455-2462
		CONNER, R.D. et al.; <i>Dynamic deformation behavior of tungsten-fiber/metallic-glass matrix composites</i> ; International Journal of Impact Engineering; Vol. 24; 2000; pp. 435-444
		CONNER, R.D. et al.; <i>Mechanical Properties of Tungsten and Steel Fiber Reinforced Zr_{41.25}Ti_{13.75}Cu_{12.5}Ni₁₀Be_{22.5} Metallic Glass Matrix Composites</i> ; Acta Mater; Vol. 46, No. 17; 1998; pp. 6089-6102
		CONNER, R.D. et al.; <i>Mechanical Properties of Zr₅₇Nb₅Al₁₀Cu_{15.4}Ni_{12.6} metallic glass matrix particulate composites</i> ; J. Mater. Res.; Vol. 14, No. 8; August 1999; Materials Research Society; pp. 3292-3297
		DANDLIKER, R.D. et al.; <i>Melt infiltration casting of bulk metallic-glass matrix composites</i> ; J. Mater. Res.; Vol. 13, No. 10; October 1998; Materials Research Society; pp. 2896-2901
		DE JONG, M. et al.; <i>The relaxation of internal stresses during annealing of amorphous Fe₄₀Ni₄₀B₂₀</i> ; Materials Science and Engineering; A179/A180; 1994; p. 341-345
		GARDON, Robert; <i>Thermal Tempering of Glass, What is Tempered Glass</i> , pp. 146-216
		GILBERT, C.J. et al.; <i>Fracture toughness and fatigue-crack propagation in a Zr-Ti-Ni-Cu-Be bulk metallic glass</i> ; Appl. Phys. Lett; Vol. 71, No. 4; July 28, 1997; pp. 476-478
		HAYS, C.C. et al.; <i>Enhanced Plasticity of Bulk Metallic Glasses Containing Ductile Phase Dendrite Dispersions</i> ; Materials Science Forum; Vols. 343-346; 2000; pp. 191-196
		HAYS, C.C. et al.; <i>Microstructure Controlled Shear Band Pattern Formation and Enhanced Plasticity of Bulk Metallic Glasses Containing in situ Formed Ductile Phase Dendrite Dispersions</i> ; The American Physical Society; Vol. 84, No. 13; March 27, 2000; pp. 2901-2904

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		HOLMAN, J.P.; <i>Heat Transfer</i> ; Sixth Edition; 1-3 Convection Heat Transfer; McGraw-Hill Book Company: New York; pp. 10-14
		INDENBOM, V.L.; <i>On the Theory of the Quenching of Glass</i> (translation); Vol. 24; 1954; 4 pp.
		INDENBOM, V.L. et al.; <i>Thermoplastic and Structural Stresses in Solids</i> ; Soviet Physics - Solid State; Vol. 6, No. 4; 1964; pp. 767-772
		KITAIGORODSKI, F.I. et al.; <i>Strengthening of Glass by Quenching</i> ; Vol. 108; 1956; pp. 843-845
		LEE, E.H. et al.; <i>Residual Stresses in a Glass Plate Cooled Symmetrically from Both Surfaces</i> ; Journal of the American Ceramic Society; Vol. 48, No. 9; pp. 480-487
		LENG, Y. et al.; <i>Multiple shear band formation in metallic glasses in composites</i> ; Journal of Materials Science; Vol. 26; 1991; pp. 588-592
		LIU, Wenshan et al.; <i>Precipitation of bcc nanocrystals in bulk Mg-Cu-Y amorphous alloys</i> ; J. Mater. Res.; Vol. 11, No.; September 1996; pp. 2388-2392
		LIU, W. et al.; <i>Small-angle x-ray-scattering study of phase separation and crystallization in the bulk amorphous Mg₆₂Cu₂₅Y₁₀Li₃ alloy</i> ; The American Physical Society; Vol. 59, No. 18; May 1, 1999; pp. 755-759
		NARAYANASWAMY, O.S.; <i>A Model of Structural Relaxation in Glass</i> ; Journal of the American Ceramic Society; Vol. 54, No. 10; pp. 491-498
		NARAYANASWAMY, O.S. et al.; <i>Calculation of Residual Stresses in Glass</i> ; Journal of the American Ceramic Society; Vol. 52, No. 10; pp. 554-558
		OHSAKA, K. et al.; <i>Specific volumes of the Zr_{41.2}Ti_{13.8}Cu_{12.5}Ni_{10.0}Be_{22.5} alloy in the liquid glass, and crystalline states</i> ; Appl. Phys. Lett.; Vol. 70, No. 6; February 10, 1997; pp. 726-728
		PEKER, A. et al.; <i>A highly processable metallic glass: Zr_{41.2}Ti_{13.8}Cu_{12.5}Ni_{10.0}Be_{22.5}</i> ; Appl. Phys. Lett.; Vol. 63, No. 17; October 25, 1993; pp. 2342-2344
		SEIFERT, Wolfgang et al.; <i>Glass transition and instant freezing theories - A Comparison of frozen-in temper stresses</i> ; Glastech. Ber. Glass Sci. Technol.; Vol. 71, No. 12; 1998; pp. 341-351
		TEJEDOR, M. et al.; <i>Mechanical determination of internal stresses in as-quenched magnetic amorphous metallic ribbons</i> ; Journal of Materials Science; Vol. 32; 1997; pp. 2337-2340
		YANNIOTIS, S. et al.; <i>Boiling on the Surface of a Rotating Disc</i> ; Journal of Food Engineering; Vol. 30; 1996; pp. 313-325

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